

What is claimed is:

1. A method for manufacturing an optical interference display unit disposed on a substrate, the method comprising:

5 forming a first electrode on the substrate;

 forming a sacrificial layer on the first electrode;

 forming at least two openings in the sacrificial layer and the first electrode to define a position of the optical interference display unit;

10 forming a photosensitive material layer to fill the openings and cover the sacrificial layer;

 patterning the photosensitive material layer to form a support in each of the openings and at least one arm on the support, wherein the support and the at least one arm form a post;

 forming a second electrode on the sacrificial layer and the at least one arm;

15 performing a thermal process to treat the post; and

 removing the sacrificial layer.

2. The method for manufacturing an optical interference display unit of claim 1, wherein the photosensitive material layer is a photoresist.

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3. The method for manufacturing an optical interference display unit of claim 1, wherein the step of patterning the photosensitive material layer includes a photolithographic process.

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4. The method for manufacturing an optical interference display unit of claim 1, wherein the thermal process is baking.

5. The method for manufacturing an optical interference display unit of claim 1, wherein the thermal process makes the at least one arm to generate displacement due to stress.

5 6. The method for manufacturing an optical interference display unit of claim 1, wherein the first electrode comprises:

the substrate;
an absorption layer; and
a dielectric layer.

10 7. The method for manufacturing an optical interference display unit of claim 6, wherein the substrate is a transparent material.

15 8. The method for manufacturing an optical interference display unit of claim 6, wherein the dielectric layer is made from silicon oxide, silicon nitride or metal oxide.

9. The method for manufacturing an optical interference display unit of claim 6, wherein the absorption layer is made from metal.

20 10. The method for manufacturing an optical interference display unit of claim 6, wherein the substrate is made from ITO glass or IZO glass.

25 11. The method for manufacturing an optical interference display unit of claim 1, wherein the first electrode and the second electrode are selected from a group consisting of narrowband mirrors, broadband mirrors, non-metal mirrors, metal mirrors and the combination thereof.

12. The method for manufacturing an optical interference display unit of claim 1, wherein the second electrode is a deformable electrode.

13. The method for manufacturing an optical interference display unit of claim 1, wherein the second electrode is a movable electrode.

5 14. The method for manufacturing an optical interference display unit of claim 1, wherein the second electrode at least comprises an opaque material or a semi-transparent material.

10 15. The method for manufacturing an optical interference display unit of claim 14, wherein the semi-transparent material is ITO glass or IZO glass.

16. The method for manufacturing an optical interference display unit of claim 1, wherein the posts are made from a photoresist.

15 17. A method for manufacturing an optical interference display unit disposed on a substrate, the method comprising:

forming a first electrode on the substrate;

forming a sacrificial layer on the first electrode;

20 forming at least two openings in the sacrificial layer and the first electrode to define a position of the optical interference display unit;

forming a support in each of the openings and at least one arm on the support, wherein the support and the at least one arm form a post;

forming a second electrode on the sacrificial layer and the at least one arm;

performing a thermal process to treat the post; and

25 removing the sacrificial layer.

18. The method for manufacturing an optical interference display unit of claim 17, wherein the photosensitive material layer is a photoresist.

19. The method for manufacturing an optical interference display unit of claim 17, wherein the post is made from photosensitive or non-photosensitive materials.

20. The method for manufacturing an optical interference display unit of claim 5 17, wherein the step of forming the post comprises:

forming a photosensitive material layer to fill the openings and cover the sacrificial layer; and

10 patterning the photosensitive material layer to form the support in each of the openings and at least one arm on the support, wherein the support and the at least one arm form the post.

21. The method for manufacturing an optical interference display unit of claim 15 20, wherein the step of patterning the photosensitive material layer includes a photolithographic process.

22. The method for manufacturing an optical interference display unit of claim 17, wherein the step of forming the support further comprises:

forming a non-photosensitive material layer to fill the openings and cover the sacrificial layer; and

20 patterning the non-photosensitive material layer to form the support in each of the openings and the at least one arm on the support by a photolithographic etching process, wherein the support and the at least one arm form the post.

23. The method for manufacturing an optical interference display unit of claim 25 17, wherein the thermal process is baking.

24. The method for manufacturing an optical interference display unit of claim 17, wherein the thermal process makes the at least one arm to generate displacement due to stress.

25. The method for manufacturing an optical interference display unit of claim 17, wherein the first electrode comprises:

the substrate;

5 an absorption layer; and

a dielectric layer.

26. The method for manufacturing an optical interference display unit of claim 25, wherein the substrate is a transparent material.

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27. The method for manufacturing an optical interference display unit of claim 25, wherein the dielectric layer is made from silicon oxide, silicon nitride or metal oxide.

15 28. The method for manufacturing an optical interference display unit of claim 25, wherein the absorption layer is made from metal.

29. The method for manufacturing an optical interference display unit of claim 25, wherein the substrate is made from ITO glass or IZO glass.

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30. The method for manufacturing an optical interference display unit of claim 17, wherein the first electrode and the second electrode are selected from a group consisting of narrowband mirrors, broadband mirrors, non-metal mirrors, metal mirrors and the combination thereof.

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31. The method for manufacturing an optical interference display unit of claim 17, wherein the second electrode is a deformable electrode.

32. The method for manufacturing an optical interference display unit of claim 17, wherein the second electrode is a movable electrode.

33. The method for manufacturing an optical interference display unit of claim 5 17, wherein the second electrode at least comprises opaque materials or semi-transparent materials.

34. The method for manufacturing an optical interference display unit of claim 10 33, wherein the semi-transparent materials are ITO glass or IZO glass.

35. The method for manufacturing an optical interference display unit of claim 17, wherein the posts are made from a photoresist.